

Remarks

Claims 2, 7 and 10 are amended. Claims 1 to 10 are pending in this application of which claims 1, 2, 7 and 10 are in independent form.

Claims 2 to 5, 7, 8 and 10 contain allowable subject matter. Accordingly, claims 2, 7 and 10 are amended herein to incorporate all the features and limitations of the claim(s) from which they had depended so that these claims are now in independent form.

Claims 3 to 5 are dependent from claim 2 and claim 8 is dependent from claim 7. Accordingly, 2 to 5, 7, 8 and 10 should now all be in condition for allowance.

Claims 1, 6 and 9 were rejected separately under 35 USC 102(e) as being anticipated by Haupt et al and Ahmad et al. The following will show that claim 1 patentably distinguishes the invention over each of these two references.

Haupt et al discloses a method for limiting the charge pressure of an internal combustion engine which is charged utilizing an exhaust-gas turbocharger. A control unit performs a comparison of an actual value and desired value of a controllable variable with a predefined limit value and generates or limits an actuating signal for driving with the control variable. The desired value is determined from a characteristic map or field as a function of the instantaneous operating state of the engine. In order to make possible an operation of the engine at the highest possible charge pressure and the highest possible power, temperature values and pressure values upstream and downstream of

a compressor of the exhaust-gas turbocharger are used in order to read the limit value from the characteristic field. In Haupt et al, the idea is to permit an operation of the compressor of the exhaust-gas turbocharger up to as close as possible to the pump limit. For this reason, the assigned limit value or the assigned pump limit is read out of the characteristic field for the particular operating point of the engine.

In the applicants' invention, a check is made in at least one operating state of the engine as to whether a pumping of the compressor occurs and the pump limit is then corrected in dependence upon the result of this check. This is set forth in applicants' claim 1 with the clause:

"making a check in at least one operating state of said engine as to whether a pumping of said compressor occurs; and,

correcting said pump limit in dependence upon the result of said check."

In contrast to the applicants' invention, in Haupt et al, the pump limit is read out of a characteristic field in dependence upon the operating point of the engine. There is no correction in Haupt et al of this pump limit or limit value. Also, no check is made as to whether a pumping of the compressor occurs in at least one operating state of the engine. Rather, in Haupt et al, the control takes place in such a manner that a pumping of the compressor is prevented in each case.

Applicants' claim 1 affords the advantage that the pump limit of the compressor is not fixedly pre-given as in Haupt et al; instead, the pump limit can be made current. In this way, and for the case that the pump limit changes over the

service life of the engine, it can be ensured that the pump limit is not exceeded. A change of the pump limit cannot be detected in Haupt et al wherein the pump limit is fixedly pre-given by the characteristic field and the danger is present that the pump limit, which is stored in the characteristic field, can be exceeded with increasing deterioration of the engine.

In view of the above, it can be seen that claim 1 patentably distinguishes the applicants' invention over Haupt et al.

In Ahmad et al, a method for controlling the intake channel and/or the exhaust channel of an internal combustion engine is disclosed. In one of the exemplary methods for controlling the charge pressure of an internal combustion engine, one or several control parameters are determined based at least in part on a desired charge pressure. The one or the several control parameters are outputted for controlling an electric motor which is coupled to a compressor in order to increase the charge pressure as well as to control a variable geometry of the turbine of the exhaust-gas turbocharger which can adjust the exhaust-gas flow to the turbine. Accordingly, this reference provides no suggestion for considering a pump limit so that it is of no assistance to our person of ordinary skill in arriving at the applicants' invention.

In view of the above, applicants submit that claim 1 also patentably distinguishes the invention over Ahmad et al.

For the reasons advanced above, neither Haupt et al nor Ahmad et al can anticipate the applicants' invention so that claim 1 and claims 6 and 9, which are dependent therefrom, should likewise now be allowable.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,



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